

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1-6. (Canceled)

7. (Currently Amended) A magnetic transducer comprising:

a nonmagnetic layer having a pair of facing surfaces;

a soft magnetic layer formed on one surface of the nonmagnetic layer;

a ferromagnetic layer formed on the other surfaces of the nonmagnetic layer;

an antiferromagnetic layer formed on the ferromagnetic layer on the side

opposite to the nonmagnetic layer; and

a ferromagnetic interlayer formed in the ferromagnetic layer, the ferromagnetic interlayer having magnetism and electrical resistance higher than the electrical resistance of the ferromagnetic layer, the ferromagnetic interlayer containing at least one of oxide, nitride or nitride oxide,

wherein $0.2T_k \leq D_2 \leq 0.8T_k$, where T_k represents the thickness of the ferromagnetic layer and D_2 represents the distance between the nonmagnetic layer and the ferromagnetic interlayer.

8. (Withdrawn) A magnetic transducer according to claim 7, wherein the ferromagnetic layer contains at least cobalt in a group consisting of cobalt and iron.

9. (Canceled)

10. (Withdrawn-Currently Amended) A magnetic transducer according to ~~claim 9~~claim 7, wherein the ferromagnetic interlayer contains at least cobalt in a group consisting of nickel, cobalt and iron and at least one kind of element in a group consisting of oxygen and nitrogen.

11. (Withdrawn) A magnetic transducer according to claim 7, wherein the soft magnetic layer has

a first soft magnetic layer containing at least nickel in a group consisting of nickel, cobalt, iron, tantalum, chromium, rhodium, molybdenum and niobium; and

a second soft magnetic layer containing at least cobalt in a group consisting of nickel, cobalt and iron.

12. (Withdrawn) A magnetic transducer according to claim 7, wherein the antiferromagnetic layer contains at least one kind of element in a group consisting of platinum, ruthenium, rhodium, palladium, nickel, gold, silver, copper, iridium, chromium and iron and manganese.

13. (Withdrawn) A magnetic transducer according to claim 7, wherein the nonmagnetic layer contains at least one kind of element in a group consisting of copper, gold and silver.

14. (Withdrawn) A magnetic transducer according to claim 7, wherein the thickness of the ferromagnetic interlayer is from 0.5 nm to 1 nm inclusive.

15. (Currently Amended) A magnetic transducer comprising:

- a nonmagnetic layer having a pair of facing surfaces;
- a soft magnetic layer formed on one surface of the nonmagnetic layer;
- a ferromagnetic layer formed on the other surfaces of the nonmagnetic layer;
- an antiferromagnetic layer formed on the ferromagnetic layer on the side opposite to the nonmagnetic layer; and
- a ferromagnetic interlayer formed in the ferromagnetic layer, the ferromagnetic layer having magnetism and electrical resistance higher than the electrical resistance of the ferromagnetic layer, layer, the ferromagnetic interlayer containing at least one of oxide, nitride or nitride oxide,

wherein the distance between the nonmagnetic layer and the ferromagnetic interlayer is from 0.6 nm to 3.6 nm inclusive.

16. (Withdrawn) A magnetic transducer according to claim 15, wherein the ferromagnetic layer contains at least cobalt in a group consisting of cobalt and iron.

17. (Canceled)

18. (Withdrawn-Currently Amended) A magnetic transducer according to ~~claim 17,~~claim 15, wherein the ferromagnetic interlayer contains at least cobalt in a group consisting of nickel, cobalt and iron and at least one kind of element in a group consisting of oxygen and nitrogen.

19. (Withdrawn) A magnetic transducer according to claim 15, wherein the soft magnetic layer has

a first soft magnetic layer containing at least nickel in a group consisting of nickel (Ni), cobalt (Co), iron (Fe), tantalum (Ta), chromium (Cr), rhodium (Rb), molybdenum (Mo) and niobium (Nb); and

a second soft magnetic layer containing at least cobalt in a group consisting of nickel, cobalt and iron.

20. (Withdrawn) A magnetic transducer according to claim 15, wherein the antiferromagnetic layer contains at least one kind of element in a group consisting of platinum, ruthenium, rhodium, palladium, nickel, gold, silver, copper, iridium, chromium and iron and manganese.

21. (Withdrawn) A magnetic transducer according to claim 15, wherein the nonmagnetic layer contains at least one kind of element in a group consisting of copper, gold and silver.

22. (Withdrawn) A magnetic transducer according to claim 15, wherein the thickness of the ferromagnetic interlayer is from 0.5 nm to 1 nm inclusive.

23 (Currently Amended) A thin film magnetic head having a magnetic transducer,

the magnetic transducer comprising:

a nonmagnetic layer having a pair of facing surfaces;

a soft magnetic layer formed on one surface of the nonmagnetic layer;

a ferromagnetic layer formed on the other surface of the nonmagnetic layer;

an antiferromagnetic layer formed on the ferromagnetic layer on the side opposite to the nonmagnetic layer; and

a ferromagnetic interlayer formed in the ferromagnetic layer, the ferromagnetic interlayer having magnetism and electrical resistance higher than the electrical resistance of the ferromagnetic layer, the ferromagnetic interlayer containing at least one of oxide, nitride or nitride oxide,

wherein $0.2T_k \leq D_2 \leq 0.8T_k$, where T_k represents the thickness of the ferromagnetic layer and D_2 represents the distance between the nonmagnetic layer and the ferromagnetic layer.

24. (Canceled)

25. (Currently Amended) A thin film magnetic head having a magnetic transducer,

the magnetic transducer including:

a nonmagnetic layer having a pair of facing surfaces;

a soft magnetic layer formed on one surface of the nonmagnetic layer;

a ferromagnetic layer formed on the other surface of the nonmagnetic layer;

an antiferromagnetic layer formed on the ferromagnetic layer on the side opposite to the nonmagnetic layer; and

a ferromagnetic layer formed in the ferromagnetic layer, the ferromagnetic interlayer having magnetism and electrical resistance higher than the electrical resistance of the ferromagnetic ~~layer,~~layer, the ferromagnetic interlayer containing at least one of oxide, nitride or nitride oxide,

wherein the distance between the nonmagnetic layer and the ferromagnetic interlayer is from 0.6 nm to 3.6 nm inclusive.

26. (Canceled)